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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,363	12/09/2003	Zhi Yong Xiao	121812.00004	4393
26710	7590	05/25/2007		
QUARLES & BRADY LLP 411 E. WISCONSIN AVENUE SUITE 2040 MILWAUKEE, WI 53202-4497			EXAMINER NGUYEN, TOAN D	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/25/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

5K

<b>Office Action Summary</b>	<b>Application No.</b> 10/731,363	<b>Applicant(s)</b> XIAO, ZHI YONG	
	<b>Examiner</b> Toan D. Nguyen	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 3/30/04.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/21/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1-10 are objected to because of the following informalities:

Claim 1 line 1, it is suggested to change "WCDMA HSDPA" to --- WCDMA High Speed Downlink Packet Access (HSDPA) ---. Similar problem exists in claim 6 line 1.

Claim 2 line 1, it is suggested to change "A method" to --- The method ---. Similar problems exist in claim 3 line 1, claim 4 line 1, claim 5 line 1, claim 7 line 1, claim 8 line 1, claim 9 line 1, and claim 10 line 1.

Claim 4 line 2, it is suggested to change "TTI" to --- transmission time interval (TTI) ---. Similar problem exists in claim 6 line 1.

Claim 7 line 1, it is suggested to change "TTI data" to --- the TTI data ---. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiu et al. (US 7,187,708) in view of Vayanos et al. (US 6,901,063).

For claim 1, Shiu et al. disclose data buffer structure for physical and transport channels in a CDMA system, comprising the steps of:

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dividing the buffer (figure 6, reference 600) into multiple segments (col. 11 lines 27-29, and col. 11 lines 49-50);

dividing each segment into multiple blocks (col. 11 lines 27-29, and col. 11 lines 49-50) such that blocks within the same segment have the same size while the sizes of blocks located in separate segments are integer multiples of each other (col. 12 lines 1-10).

However, Shiu et al. do not expressly disclose re-ordering buffer. In an analogous art, Vayanos et al. disclose re-ordering buffer (figure 4B, reference 462, col. 7 line 29).

One skilled in the art would have recognized the re-ordering buffer, and would have applied Vayanos et al.'s re-ordering buffer in Shiu et al.'s buffer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Vayanos et al.'s data delivery in conjunction with a hybrid automatic retransmission mechanism in CDMA communication systems in Shiu et al.'s data buffer structure for physical and transport channels in a CDMA system with the motivation being to reorder the recovered packets in the buffer according to the TSN assigned to each packet (col. 7 lines 37-39).

For claim 2, Shiu et al. disclose wherein the multiple segments include a first, second and third segment (col. 12 lines 8-10).

For claim 3, Shiu et al. disclose wherein the size of the blocks of the first segment is 2 times that of the second segment, and 4 times that of the third segment (col. 12 lines 5-10).

For claim 4, Shiu et al. disclose wherein the size of the blocks of the first segment is the maximum length of received TTI data (col. 12 lines 1-3).

For claim 5, Shiu et al. disclose wherein the size of the blocks of the first segment is half of the maximum length of received TTI data (col. 12 lines 1-10).

For claims 6-, Shiu et al. disclose data buffer structure for physical and transport channels in a CDMA system, comprising multiple segments (col. 11 lines 27-29, and col. 11 lines 49-50), wherein each segment is composed of multiple blocks with equal size (col. 4 lines 20-23), and the sizes of the blocks of a first segment of the multiple segments are integer multiples of the sizes of the blocks of additional segments of the multiple segments (col. 12 lines 1-10).

However, Shiu et al. do not expressly disclose re-ordering buffer. In an analogous art, Vayanos et al. disclose re-ordering buffer (figure 4B, reference 462, col. 7 line 29).

Vayanos et al. disclose determining a size category of the TTI data (col. 6 lines 1-23), comparing the size category of the TTI data with sizes of the blocks of the first segment and the additional segments to find a matching block for storing the TTI data; storing the TTI data in the matching block if an empty matching block is found, but if no empty matching block is found then: storing the TTI data in a block with a size larger than the size category of the TTI data; storing the TTI data in adjacent blocks, if such a block with a larger size is unavailable (col. 6 lines 1-23 as set forth in claim 7), wherein the step of determining is based on the size of the TTI data and the sizes of the blocks of the segments (col. 6 lines 1-23 as set forth in claim 8), If a larger sized block is

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partially occupied but still has enough space for the TTI data, storing the data in the block; and If such a larger sized block is unavailable, storing the TTI data in a free block with a larger size (col. 6 lines 1-23 as set forth in claim 9), and wherein the step of storing the TTI data in adjacent blocks comprises a step of storing the TTI data in a minimum number of adjacent blocks (col. 6 lines 1-23 as set forth in claim 10).

One skilled in the art would have recognized the re-ordering buffer, and would have applied Vayanos et al.'s re-ordering buffer in Shiu et al.'s buffer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use Vayanos et al.'s data delivery in conjunction with a hybrid automatic retransmission mechanism in CDMA communication systems in Shiu et al.'s data buffer structure for physical and transport channels in a CDMA system with the motivation being to reorder the recovered packets in the buffer according to the TSN assigned to each packet (col. 7 lines 37-39).

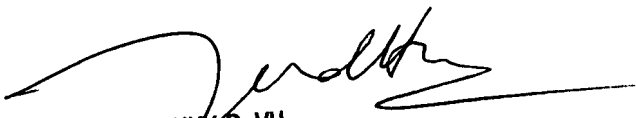
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D. Nguyen whose telephone number is 571-272-3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN  
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